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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,453

01/18/2007

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4676-68

8209

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EXAMINER

BERMAN, SUSAN W

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

10/09/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/568,453	<b>Applicant(s)</b> TAKAHASHI ET AL.	
	<b>Examiner</b> /Susan W. Berman/	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 8-16 is/are rejected.
- 7) ☒ Claim(s) 4-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>2-15-06</u> . | 6) <input type="checkbox"/> Other: ____.  |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata et al (4,388,362). Iwata et al disclose a UV printing ink including a photoinitiator, prepolymer, such as urethane acrylates or vinyloxyethyl acrylates, monomer, such as (meth)acrylate, and pigment (column 4, line 58, to column 5, line 28). Claim 10 recites a printing ink comprising photoinitiator, prepolymer selected from urethaneacrylates, vinyloxyethylacrylates and a (meth)acrylate or styrene monomer. Iwata et al do not mention or limit the weight percents of the disclosed components of the ink compositions.

It would have been obvious to one skilled in the art at the time of the invention to formulate an ink composition comprising a combination of the urethane acrylate and vinyloxyethylacrylate prepolymers taught by Iwata et al in weight percents within the instantly claimed ranges. One skilled in the art at the time of the invention would have been motivated by a reasonable expectation of obtaining a useful printing ink composition because Iwata et al teach that both kinds of prepolymers are useful. The comprising language of the instant claims encompasses the additional monomers taught by Iwata et al.

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Claims 1-3 and 8-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montgomery et al (US 2003/0139487) in view of Yurugi et al (6,767,980, having a filing date of 04-19-2002).

Montgomery et al teach radiation curable compositions for coating optical fibers comprising 30-70 wt. % oligomer, 10-50 wt % reactive diluent and 0.1-40 wt. % adhesion promoter. Most desirable oligomers include urethane acrylate systems [0034]. Reactive diluents include di(meth)acrylates and di(vinyl ethers) containing alkyl or polyether moieties [0037]. An illustrative adhesion promoter is hydroxybutyl acrylate [0040].

Yurugi et al disclose a reactive diluent composition comprising a vinyl ether group-containing (meth)acrylic ester of formula (1) in the Abstract. Disclosed formula (1) corresponds to formula (1) in instant claim 1 since the R<sup>2</sup> “organic residue” can be an alkoxy group. Monomers 2-vinyloxyethyl(meth)acrylate, 1,1dimethyl-2-vinyloxyethyl(meth)acrylate, 2-(vinyloxyethoxy)ethyl methacrylate, 2-(vinyloxyethoxyethoxy)ethyl (meth)acrylate, and 2-(vinyloxyethoxyethoxyethoxy)ethyl (meth)acrylate are specifically taught in column 3, lines 42, 48-49, 56, 62, 67 to column 4, line 68. The reactive diluent composition also comprises a hydroxyl group-containing (meth)acrylate monomer. Yurugi et al teach that the disclosed reactive diluents are useful in resins curable with heating or irradiation and overcome the disadvantages of radical-curing reactive diluents listed in column 1, lines 36-50. See the advantages taught in column 2, lines 7-54.

It would have been obvious to one skilled in the art at the time of the invention to employ the reactive diluent compositions taught by Yurugi et al as the reactive diluent in the compositions disclosed by Montgomery et al. Montgomery et al teach that suitable reactive

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diluents should contain (meth)acrylate groups or vinyl ether groups and alkyl or polyether moieties. The reactive diluents taught by Yurugi et al contain (meth)acrylate and vinyl ether groups as well as polyether moieties. One skilled in the art at the time of the invention would have been motivated by a reasonable expectation of successfully coating optical fibers with a composition comprising urethane acrylate oligomer and reactive diluents providing the numerous advantages taught by Yurugi et al.

#### ***Allowable Subject Matter***

Claims 4-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art cited herein and otherwise known to the examiner does not teach or suggest compositions comprising a monomer of formula (1) and a urethane (meth)acrylate obtained by reacting a polyisocyanate compound and a hydroxyl-functional ethylenically unsaturated monomer.

#### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. EO 0 997 508 A1 discloses radiation curable ink compositions comprising monomers of formula (I) wherein the linking group "L" can be ethoxy, thus corresponding to the instantly claimed formula 1. Compositions comprising other monomers, oligomers and other reactive diluents are taught. Prepolymers disclosed include urethane (meth)acrylates, such as aliphatic or aromatic polyester urethane acrylates [0056] to [0058].

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to /Susan W. Berman/ whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SB  
9/30/2008

/Susan W Berman/  
Primary Examiner  
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